

SECTION VI

PRE-SHIFT

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2003 PRESIFT CONTEST RULES

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Section VI

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RULES GOVERNING 2003 PRESIFT CONTEST AND INTERPRETATIONS OF DISCOUNT CARDS

1. Contestant must be a bonafide employee of a mining company or contractor and be certified as a mine foreman or examiner in the state in which the contestant is employed. Proof of certification must be presented at time of registration. Card, certificate, etc. will be accepted. If such proof is not provided prior to the contest, the participant will not be allowed to compete.
2. Judges will be employees of the Mine Safety and Health Administration (MSHA) and other assisting State Agencies.
3. Contestant must bring safety cap, safety shoes, mining belt, cap light, SCSR, anemometer, watch (with second hand or equivalent), an MSHA approved device to detect explosive and dangerous gases and/or deficiencies of oxygen, and a device for testing the roof. **If a contestant cannot provide an SCSR due to travel restrictions, he/she should notify the registrar on the submitted registration form, and a SCSR will be provided.** All other materials needed to work the problem will be furnished, such as distance/area measuring devices, tool aprons, and materials for placing dates, times and initials.
4. A contest point system has been established. Failure to find/correct deficiencies or hazards, if necessary, failure of the contestant to verbally identify work, tests, or action being taken to the judge(s), or failure to report on the record page will be assessed discounts. The accumulation of discounts will establish the contestants ranking in the contest. Three scoring segments will be used during the contest: written examination, underground, and the preshift record page.
5. Upon completion of the problem, the contestant will be given an opportunity to review the discounts and have the right to appeal in writing to the Chief Judge. Twenty minutes will be allowed for review and preparation of written protests. The Chief Judge will have final decision on all appeals.
6. All contestants will take a written examination. The examination will consist of 10 fill-in-the-blank questions, taken from the **published statements of fact.** Contestants will have 10 minutes to complete the written examination. Two points will be discounted for each incorrect answer.
7. A fireboss station will be provided. Two stopwatches, or one clock and a stopwatch will be at the station. The contestant will start one, and one will be started and carried by a Judge. **When the contestant arrives at the field a blank map and a written statement will be provided.** The contestant will have five minutes to review the statement prior to starting the clock and the underground portion of the contest.

8. A maximum working time of 30 minutes will be in effect for the underground portion of the contest. The contestant will be notified when there is one minute left to complete the problem.
9. The portion of the mine to be examined will be addressed in a briefing prior to working the problem.
10. If during the problem, date, time and initials need to be posted, the information shall be written on an index card and the card placed on the mine floor at the required location. The contestant's personal watch time will be the time used on the card.
11. The contestants personal watch time will be the time used on the preshift record for time of examination.
12. A placard placed on the mine floor will indicate all equipment, conditions, or potential underground hazards. The lettering on the placards will be at least one-inch in height. Contestants will not remove any items or placards unless specifically addressed in the problem.
13. If during the problem a condition or a hazard is found and can be corrected by the contestant it must be indicated on a provided index card and placed on the mine floor. Danger signs or other types of indicators will be placed on the mine floor. Where conditions can be corrected by physically moving an item or ventilation device, such action need not be indicated on an index card.
14. The contestant will be provided linear feet, width and height, or area dimensions, where air measurements are required during the working of the problem. Air measurements will be simulated, using the traverse method, for a minimum of 60-seconds. No calculators or similar devices will be allowed.
15. Once the underground segment is completed, the contestant shall exit the mine, check out, stop the clock, and will be escorted to the assigned area to fill out a preshift record page. Contestant will not be allowed to re-enter the mine. Contestant will have 15-minutes to complete the preshift record. Upon completion of the record, the contestant will turn-in the preshift record page, all index cards, and the section working map. Discounts will be assessed for each item not recorded within the allotted time.

16. In the event an unforeseen problem arises, the time clock will be stopped, and the contestant will be removed from the field and taken to a neutral area. Following correction, the contestant will be returned to the field to complete the problem, and the time clock will be restarted. The field judges, prior to the completion of the problem, will adjust any discrepancies in the working time. At the completion of the problem the contestant will be notified of any corrective actions concerning the working time.
17. In the event the contestant uses all provided cards, or the contestants marker fails, the contestant should immediately notify the judges. Items provided for that purpose will be given to the contestant.
18. No unauthorized person(s) will be allowed in the isolation area, or on the contest field, without permission from the Chief Judge.
19. Discounts will be assessed if the preshift record page is not legible to the judges.
20. In the event of a tie, underground discounts will be the first tie breaker, preshift record will be the second, written examination will be the third, and the elapsed working time will be the fourth tie breaker.
21. All discounts assessed to the contestant will be concurred by the two Field Judges.
22. Judges should not talk with contestants during the working of the problem, other than to convey required information.
23. Immediately after briefing, no communication between contestant and any outside party will be allowed. Contestants receiving contest information after entering the isolation area will be disqualified.
24. Contestant may take reference material into the isolation area when entering lockup. The contestant may not use any of this reference material when working the problem or taking a written exam.
25. All gas detecting instruments used or taken into the mine must be tested in the presence of the judges at the fireboss station after starting the clock. (Gas detecting instruments will be left on during the working of the problem.) If an instrument fails during testing, and the contestant takes corrective action with a backup instrument that has been tested in the presence of the judges, no discount will be assessed.
26. Persons wishing to photograph or video tape the contest must receive permission from the Chief Judge.

INTERPRETATION OF THE FIELD SCORECARD

1. Failure to check in after starting the clock and check out prior to stopping the clock. ____2

2. Failure to have required equipment ____2

Required equipment is safety cap, safety shoes, mining belt, cap light, SCSR, anemometer, watch (with second hand or equivalent) and a MSHA approved device to detect explosive and dangerous gases and/or deficiencies of oxygen, and a device for testing the roof. Contestant should have required equipment prior to leaving isolation area. A discount will be assessed for each omitted item.

3. Failure to visually examine self-contained self-rescuer prior to entering the mine ____2

4. Failure to place date, time, and initials at required locations ____2

Date, time and initials are to be placed where methane tests are required.

Date means correct month, day, and year. Discount assessed to each item omitted. Not to exceed 6 at each location.

5. Failure to make necessary gas tests where required, each omission ____2

Methane tests shall be taken:

- A. In all roadways, travelways, and track haulageways where persons are required to work or travel.
- B. In all working **places on the section** and at areas where mechanized mining equipment is being installed or removed.
- C. In areas where persons are scheduled to work, prior to the preshift examination.
- D. **At faces or last row of permanent roof support** in rooms driven over 20-feet off intake aircourses.
- E. At seals along intake aircourses.
- F. At underground electrical installations, except; small hand held portable pumps, permissible pumps and associated permissible switchgear, and submersible pumps.

G. Immediately inby approaches to worked-out areas along intake aircourses, and at high spots where methane is likely to accumulate, and equipment will be operated in the area during the shift.

H. In all accessible face areas, at the face or last row of permanent roof support.

6. Improper procedure when testing with gas detectors, testers, and indicators ____2

A proper test for methane and oxygen deficiency shall require the following action by the examiner:

METHANE - Detector shall be held at eye level or higher

OXYGEN DEFICIENCY - Detector shall be held at waist level or below

The contestant will verbally identify each test to the judge(s).

7. Failure to determine correct section ventilation and proper direction of the ventilating current ____2

Failure to determine by air measurement, the direction and volume of the ventilating air current. Failure to determine correct direction of air current at regulators. Less than 9,000 cubic feet per minute (cfm) measured in the last open crosscut will be considered a hazard, unless otherwise stated in the written problem or other written instructions.

8. Improper procedure when taking an air measurement ____2

Failure to traverse the entry/crosscut perpendicular to the ventilating current.
Failure to measure the air current for 60-seconds.

9. Improper procedure when examining and testing the mine roof ____2

Failure to visually examine the mine roof. Roof tests are required where any work is to be performed and where roof supports are to be installed. In areas where a test is required a sound and vibration test is to be made when visual examination does not disclose a hazardous condition, or the condition is not indicated by placard. Contestant must verbally identify, to the judge(s), the type of test being conducted.

10. Failure to find hazardous condition ____2

11. Failure to correct condition, where applicable ____2

Applies only to a condition(s) that could be corrected by the contestant during the examination where a means or materials were available, each omission.

12. Traveling at more than walking speed ____10

Concurrence by two (2) judges required.

13. Contestants equipment not maintained in operable condition, each infraction ____2

Would include missing identification tag on mining belt; missing retaining screw on facepiece of battery light; methane detector/oxygen indicator not maintained in permissible condition. Concurrence by two (2) judges required.

14. Contestant using an electronic calculator ____10

15. Any act by the examiner, which may result in an explosion of an explosive air/gas mixture ____30

A. Changing conditions of the section ventilation in such a manner that an explosive mixture is moved over an ignition source.

B. Encountering an explosive air/gas mixture in a face, or other area, and failing to take proper corrective actions.

An explosive mixture will be present when the methane is between five and fifteen percent inclusively and the oxygen is 12.1 percent or greater. Both methane and oxygen concentrations will be shown on the placards.

16. Any act by the examiner, which may endanger himself/herself or others ____20

A. Entering or remaining in an area known to contain an irrespirable atmosphere.

B. Atmospheres containing less than 19.5 percent oxygen are irrespirable. Concentrations must be shown on the placard.

C. Encountering an adverse roof condition and failing to take adequate protective actions.

D. Protective actions would be posting a readily visible warning or a physical barrier.

E. Traveling under unsupported roof. (Self explanatory)

F. Remaining in or traveling through an area of inadequately supported roof once the condition of that roof has been determined.

17. Contestant not following the written instructions for working the problem
____15

18. Failure to exam all accessible areas _____10

19. Failure to comply with general rules not covered in the discount sheet ____2

INTERPRETATION OF THE PRESHIFT RECORD

1. Preshift record page not legible ____2

Discount assessed to each illegible article; two judges must concur, not to exceed 30.

2. Failure to record location of examination ____2

Each omission.

3. Failure to record hazardous conditions ____2

Each omission.

4. Failure to record action taken to correct hazardous conditions ____2

Applies only to a condition(s) that could be corrected by the contestant during the examination where a means or materials were available, each omission.

5. Failure to record date and time of examination ____1

6. Failure to record results of air measurements ____1

7. Failure to record results of methane (CH₄) examinations ____1

Each omission

8. Failure to certify by signature ____1

9. Failure to date entry of signature ____1

STATEMENTS OF FACT PRESHIFT CONTEST

1. A preshift examiner must be certified or registered in the State in which the coal mine is located. (Mine Act 1977, Sect. 318(a))
2. Preshift examinations must be conducted within three hours preceding the beginning of any 8-hour interval during which any person is scheduled to work or travel underground. (30 CFR 75.360(a)(2))
3. The lower explosive limit for methane is five volume percent. (MSHA 2102, p. 31)
4. Air being used to ventilate areas where persons work or travel shall contain at least 19.5 percent oxygen. (30 CFR 75.321(a)(1))
5. Ventilation is utilized to dilute, render harmless, and carry away flammable, explosive, noxious, and harmful gases, dusts, smoke, and fumes. (30 CFR 75.325, 330(b)(1))
6. When taking a reading with an anemometer, a commonly used method is to traverse the airway. (MSHA 2103, p. 29)
7. Low barometric pressures may cause methane to migrate outward from pillared areas into active workings.
8. About 21 percent of normal air is oxygen. (MSHA 2102, p. 27)
9. Where the mining height permits and the visual examination does not disclose a hazardous condition, sound and vibration tests, or other equivalent tests, shall be made where supports are to be installed. (30 CFR 75.211(b))
10. Methane is lighter than air. (MSHA 2102, pp. 13, 31, & 67)
11. To test for methane, use a methane detector or chemical analysis. (MSHA 2102, p. 33)
12. High voltage cables and transformers shall not be located in by the last open crosscut and shall be kept at least 150 feet from pillar workings. (30 CFR 75.1002)
13. The upper explosive limit for methane is 15 volume percent. (MSHA 2102, p. 31)

14. Methane detectors should be calibrated with a known methane-air mixture at least once every 31 days. (30 CFR 75.320 (a))
15. Each underground coal mine operator shall ensure that at least two miners in each working section on each production shift are proficient in the use of all fire suppression equipment available on such working section, and know the location of such fire suppression equipment. (30 CFR 75.1101-23(b)(1))
16. Carbon monoxide has no odor. (MSHA 2102)
17. Tests for methane concentration should be made at least 12 inches from the roof, face, ribs, and floor. (30 CFR 75.323(a))
18. The end of permanent roof support shall be posted with a readily visible warning, or a physical barrier shall be installed to impede travel beyond permanent support. (30 CFR 75.208)
19. Roof support materials, sequence of roof support installation and spacing, are stated in the Approved Roof Control Plan. (30 CFR 75.221)
20. All electric face equipment taken into or used in by the last open crosscut shall be permissible. (30 CFR 75.503)
21. Escapeways shall be clearly marked to show the route and direction of travel to the surface. (30 CFR 75.380(d)(2))
22. No person other than certified examiners may enter or remain in any underground area unless a preshift examination has been completed for the established 8-hour interval. (30 CFR 75.360(a)(2))
23. Ventilation controls are used underground to properly distribute air to all sections of the mine. (MSHA 2103, p. 11)
24. Tests for oxygen deficiency shall be made by a qualified person with MSHA approved oxygen detectors maintained in permissible and proper operating condition. (30 CFR 75.320(b))
25. Carbon monoxide can be detected by means of carbon monoxide detectors, multi-gas detectors, or chemical analysis. (MSHA 2102, p. 36)
26. A smoke tube is used to show the direction and velocity of slow moving air. (MSHA 2103, pp. 33 & 80)
27. Lubricating oil and grease kept underground shall be stored in fireproof, closed metal containers. (30 CFR 75.1104)

28. The results of the preshift examination must be recorded in a book, provided for that purpose on the surface, before any persons other than the examiners may enter any underground areas. (30 CFR 75.360)
29. All fire suppression devices shall be visually inspected at least once each week by a person qualified to make such inspections. (30 CFR 75.1107-16(a))
30. Preshift examinations are made by persons designated by the operator. (30 CFR 75.360(a)(1))
31. A bar for taking down loose material shall be available in the working place or on all face equipment except haulage equipment. (30 CFR 75.211(d))
32. The operator must establish 8-hour intervals of time subject to the required preshift examinations. (30 CFR 75.360(a)(2))
33. In exhausting face ventilation systems, a mean entry velocity of at least 60 feet per minute will reach each working face where coal is being cut mined or loaded. (30 CFR 75.326)
34. Test holes, spaced at intervals specified in the roof control plan, shall be drilled to a depth at least 12 inches above the anchorage horizon of mechanically anchored tensioned roof bolts being used. (30 CFR 75.204(f)(2))
35. Before implementing an approved revision to a roof control plan, all persons who are affected by the revision shall be instructed in its provisions. (30 CFR 75.220(d))
36. A minimum quantity of 3,000 cubic feet per minute shall reach each working face where coal is being cut, mined or loaded. (30 CFR 75.325)
37. Self-contained self-rescuers are used to protect the wearer from the effects of carbon monoxide.
38. Carbon monoxide has no taste. (MSHA 2102, p. 87)
39. Rock dust applications to the roof, ribs, and floor shall be maintained to within 40 feet of the working face, except in those areas where the dust is too wet or too high in incombustible content. (30 CFR 75.402)
40. The results of preshift examinations may be called out to a responsible person on the surface, or carried to the surface by the examiner. (30 CFR 75.360)

41. Oxygen detectors shall be calibrated at the start of each shift that the detectors will be used. (30 CFR 75.320(b))
42. Chemical extinguishers shall be examined every six months and the date of the examination shall be written on a permanent tag attached to the extinguisher. (30 CFR 75.1100-3)
43. Conveyor belts used to transport persons during the oncoming shift must be examined during the preshift examination. (30 CFR 75.360)
44. High spots where methane is likely to accumulate, over haulageways where equipment will travel must be examined during the preshift examination. (30 CFR 75.360)
45. Any area of the mine where a hazardous condition is observed shall be posted with a conspicuous danger sign where anyone entering the area would pass. (30 CFR 75.360(e))
46. Methane tests and the examiner's certification with date, time and initials, shall be made at seals located along intake aircourses. (30 CFR 75.360)
47. A visual examination of the roof, face and ribs shall be made immediately before any work is started in an area and thereafter as conditions warrant. (30 CFR 75.211(a))
48. Low barometric pressures may cause seals to leak the sealed atmosphere outward into adjacent airways. (Miner's Circular 36, Bureau of Mines, 1948)
49. Regulators are used in mine ventilation to regulate airflow to meet the individual needs of each air split. (MSHA 2103, p. 20)
50. A sightline or other method of directional control shall be used to maintain the projected direction of mining in entries, rooms, crosscuts and pillar splits. (30 CFR 75.203(b))